

## The relationship between materialism and anger: The mediating role of depression and anxiety

The relationship between materialism and anger

Onur Gökçen<sup>1</sup>, Kader Semra Karataş<sup>1</sup>, Merve Akkuş<sup>1</sup>, Feyza Dönmez<sup>1</sup>, Çiğdem Aydoğan<sup>2</sup>, Elif Aydoğan<sup>3</sup>

<sup>1</sup> Department of Psychiatry, Faculty of Medicine, Kutahya Health Sciences University, Kutahya

<sup>2</sup> Department of Emergency Health, Bursa Center Emergency Health Services Station Number 03, Bursa

<sup>3</sup> Department of Emergency Health, Afyonkarahisar Basmakci District State Hospital, Afyonkarahisar, Turkiye

### Abstract

**Aim:** Materialism has been previously reported in the literature to reduce individual well-being and to be associated with depression and anxiety. The aim of this study was to examine the relationship between materialism and anger and to examine the possible mediating role of depression and anxiety in this relationship.

**Material and Methods:** An online survey of 513 university students was conducted including questions about demographics and income status, the Material Values Scale (MVS), the Trait Anger and Anger Expression Style Scale (STA), and the Hospital Anxiety Depression Scale (HADS).

**Results:** Material Values Scale (MVS) scores and the Trait Anger and Anger Expression Style Scale (STA) scores were statistically significantly correlated. Depression and anxiety were also found to be statistically significantly associated with the MVS total score. When anxiety and depression are included in the significant relationship between the Material Values Scale (MVS) total score and "trait anger", both have been shown to play a mediating role.

**Discussion:** This is the first study to examine the relationship between materialism and anger. Depression and anxiety seem to have a mediating role in this relationship. This relationship can be important for designing interventions that enhance individual and societal well-being. Further research is needed to better understand the relationship between materialism and anger.

### Keywords

Materialism, Anger, Depression, Anxiety

DOI: 10.4328/ACAM.22510 Received: 2024-12-02 Accepted: 2025-01-13 Published Online: 2025-01-26 Printed: 2025-07-01 Ann Clin Anal Med 2025;16(7):494-499

Corresponding Author: Onur Gökçen, Department of Psychiatry, Faculty of Medicine, Kutahya Health Sciences University, Kutahya, Turkiye.

E-mail: onur.gokcen@ksbu.edu.tr P: +90 507 201 52 21

Corresponding Author ORCID ID: <https://orcid.org/0000-0003-2058-9855>

Other Authors ORCID ID: Kader Semra Karatas, <https://orcid.org/0000-0003-3595-8019> · Merve Akkuş, <https://orcid.org/0000-0003-3046-2815>

Feyza Dönmez, <https://orcid.org/0000-0002-1293-165X> · Çiğdem Aydoğan, <https://orcid.org/0009-0000-9575-1277> · Elif Aydoğan, <https://orcid.org/0000-0002-2638-7659>

This study was approved by the Ethics Committee of Kutahya Health Sciences University (Date: 2023-07-10, No: 2023/08-23)

## Introduction

"Enjoy material comforts if they're there, but don't miss them if they aren't there. Treat the things you don't have as nonexistent. Look at what you have and think how much you'd want them if you didn't have them."

Marcus Aurelius, *Meditations*

Billions of people from almost every culture are exposed on a daily basis to mass messages regarding the importance of money, possessions, status, and correct image. On the other hand, the tendency to acquire money and possessions has been widely criticized from many philosophical and religious perspectives throughout history [1]. In a number of these criticisms, it is seen as a shallow goal or a bad human trait that leads to the neglect of higher values [2]. In the psychoanalytic criticisms that emerged in later periods, purchasing and possessing behavior as a means of happiness were thought to stem from fixation or regression in psychological development [2]. In recent decades, materialism has emerged as a topic of great interest among researchers; empirical research on materialism has been conducted since the mid-1980s [3].

Belk defined materialism as 'the importance that the consumer attaches to worldly possessions' and saw it as a personality trait consisting of the desire to possess, a lack of generosity, and envy [4]. According to Richins and Dawson, materialism is not a personality trait but a set of social values that can change throughout life [5]. They see materialism as a 'set of centrally held beliefs about the importance of possessions in one's life'. They state that materialism has three dimensions; centrality, success, and happiness. According to them, materialism has three dimensions: centrality, success, and happiness. 'Centrality' is when the acquisition of possessions becomes a central focus in one's life. 'Success' is the use of one's possessions as the primary indicators of success and achievement in life, both in evaluating oneself and others. 'Happiness' is their belief that the acquisition of possessions is the greatest source of their well-being and life satisfaction. Many authors in the literature also think of materialism as a set of values and goals that people have for money, possessions, power, status, and image [6].

Prioritizing materialistic values at the expense of not prioritizing certain other values has been reported to have negative well-being consequences [3, 6, 7]. In a meta-analysis focusing on the relationship between materialism and various well-being indicators, Dittmar et al. also suggest that the negative relationship between materialism and well-being is mediated by poor psychological need satisfaction [3]. The evidence base highlighted by this meta-analysis is based more on correlation data [7]. In addition, longitudinal and experimental studies have also shown that materialism can lead to changes in personal well-being. Studies on well-being have used indicators such as life satisfaction, subjective well-being, physical health, loneliness, happiness, and frustration of the basic psychological needs [1, 6, 8, 9]. In addition, materialism in the literature has been associated with psychiatric symptoms such as depression, anxiety, compulsive buying, and risky behavior such as alcohol or substance abuse [3, 10, 11].

Another condition that can be related to well-being is anger [12]. Anger is a species-typical response to perceived threat,

frustration, or social provocation. It is not considered as a unitary construct [12]. The authors distinguish between various dissociable subcomponents such as trait and state anger, anger expression, and anger control [13]. Among these subcomponents, trait anger is defined as 'individual differences in the disposition to perceive a wide range of situations as annoying or frustrating and by the tendency to respond to situations with elevations in state anger [13]. High levels of anger can be associated with maladaptive behavior, resulting in impaired social relationships, negative health outcomes, and lower quality of life [12]. It has also been reported in the literature that anger is significantly associated with risky behavior such as alcohol or drug abuse and with depression, anxiety, and many other psychiatric disorders [14].

Materialism has been found to be associated with a number of situations that may cause anger, such as loneliness, low happiness [15], and frustration [8]. Furthermore, while both anger and materialism have been found to be associated with psychiatric symptoms such as anxiety and depression, to the best of our knowledge, no study has focused on the relationship between anger and materialism. We predict that individuals who shape their social relations and expectations with materialistic values have higher levels of anger. The aim of this study is to examine the relationship between materialism and anger (trait anger and its subcomponents) and to examine the possible mediating role of depression and anxiety in this relationship.

## Material and Methods

### *Participants and procedure*

The participants of this study were students of Kutahya University aged between 18–26 years. The study was conducted online. Within the scope of the study, the participants were asked questions about their sociodemographic characteristics and income status.

### *Measures*

**Material Values Scale (MVS):** Materialism was measured using the 9-item, 3-dimension 'Material Values Scale' (Centrality, Success, and Happiness) on a 5-point Likert scale [16]. In the Turkish version, high correlation between Centrality and Success indicated overlapping constructs. Confirmatory factor analyses supported a two-factor structure: Happiness and Centrality/Success [15].

**Trait Anger and Anger Expression Style Scale (STA1):** The STA1 measures anger emotion and expression [17], adapted to Turkish [18]. It has 34 items and four subscales: Trait Anger, Anger-in, Anger-out, and Anger Control. High scores in Trait Anger indicate high anger levels; Anger Control indicates controlled anger; Anger-out indicates easily expressed anger; Anger-in indicates suppressed anger.

**The Hospital Anxiety Depression Scale (HADS):** The HADS measures anxiety and depression symptoms via self-report [19]. Its validity and reliability have been established in Turkey [20]. It is used for quick diagnosis and identifying at-risk groups.

### *Statistical Analysis*

Statistical analyses were conducted using IBM SPSS version 25.0 (SPSS Inc., Chicago, USA). Continuous variables are presented as means  $\pm$  standard deviations (Mean  $\pm$  SD), and categorical variables as numbers and percentages. Normality

was confirmed based on a sample size of over 200 [19] and Skewness/Kurtosis within  $\pm 3.29$ . Independent Samples t-test and One-Way ANOVA were used for comparisons of two-group and multi-group variables, respectively. Pearson correlation analysis, a parametric test, was used to determine the relationship between the scale and subscale scores. The Chi-square test was used for categorical variables, with  $p < 0.05$  indicating significance.

#### Ethical Approval

This study was approved by the Ethics Committee of Kutahya Health Sciences University (Date: 2023-07-10, No: 2023/08-23).

#### Results

513 people participated in the study. Two dummy questions (attention control items: e.g. please select '5' for this question) were added to improve the quality of the monument in the study [9]. The answers of four people who gave incorrect answers to these questions were not evaluated. Table 1 shows the frequency analysis of sociodemographics and various variables of the participants.

A significant positive correlation was observed between the MVS total score and 'STAI-Trait Anger' ( $r = 0.372$ ), 'STAI-Anger-in' ( $r = 0.232$ ), 'STAI-Anger-out' ( $r = 0.315$ ), 'HADS-Anxiety' ( $r = 0.262$ ), and 'HADS-Depression' ( $r = 0.129$ ), and a negative correlation with 'STAI-Anger Control' ( $r = -0.183$ ) (all  $p < 0.001$ ). The 'MVS-Happiness' score correlated positively with 'STAI-Trait

'Anger' ( $r = 0.245$ ), 'STAI-Anger-in' ( $r = 0.247$ ), 'STAI-Anger-out' ( $r = 0.215$ ), 'HADS-Anxiety' ( $r = 0.245$ ), and 'HADS-Depression' ( $r = 0.187$ ), and negatively with 'STAI-Anger Control' ( $r = -0.088$ ,  $p = 0.048$ ).

The 'MVS-Centrality-Success' score showed positive correlations with 'STAI-Trait Anger' ( $r = 0.377$ ), 'STAI-Anger-in' ( $r = 0.169$ ), 'STAI-Anger-out' ( $r = 0.313$ ), and 'HADS-Anxiety' ( $r = 0.212$ ), and a negative correlation with 'STAI-Anger Control' ( $r = -0.209$ ) (all  $p < 0.001$ ).

'STAI-Trait Anger' correlated positively with 'HADS-Anxiety' ( $r = 0.341$ ) and 'HADS-Depression' ( $r = 0.208$ ), while 'STAI-Anger-in' correlated with 'HADS-Anxiety' ( $r = 0.334$ ) and 'HADS-Depression' ( $r = 0.336$ ). 'STAI-Anger-out' was positively correlated with 'HADS-Anxiety' ( $r = 0.247$ ) and 'HADS-Depression' ( $r = 0.168$ ), whereas 'STAI-Anger Control' showed negative correlations with both 'HADS-Anxiety' ( $r = -0.216$ ) and 'HADS-Depression' ( $r = -0.188$ ) (all  $p < 0.001$ ).

There was no difference between the males and females in terms of the Material Values Scale scores. Furthermore, there was no difference in the Material Values Scale scores between those with and those without psychiatric diagnosis (Table 3). The Material Values Scale scores were found to be statistically significantly higher in those with a monthly income of 3,000 TL and above (Table 3).

#### The Mediation Analysis

The PROCESS v2.16.3 macro, which can work within the SPSS 25.0 program, was used to examine the relationship between

**Table 1.** Frequency Distribution of Sociodemographic and Characteristics of the Participants (n = 509)

	n or Median	% or Mean $\pm$ SD
Age (years)	22.0	21.72 $\pm$ 2.43
Male	144	28.3
Female	365	71.7
How many years have you been a university student?	2 (1-9)	3.22 $\pm$ 1.77
Monthly income for personal expenses		
3,000TL and below *	298	58.5
Over 3,000TL	211	41.5
Psychiatric disorder		
No	452	88.8
Anxiety disorders	22	4.3
Depression-related disorders	22	4.3
Bipolar disorders	3	0.6
Obsessive-compulsive disorders	6	1.2
Eating disorders	1	0.2
Other	3	0.6
Do you have a disability?		
Physically disabled	2	0.4
Mental health	4	0.8
No.	503	98.8
Are you a foreign student?		
Yes	4	0.8
No.	505	99.2
Where do you reside?		
Home (alone or with friends)	211	41.5
Home (with family)	174	34.2
Dormitory	124	24.4

n = Number, % = Frequency, Median = Median, Mean = Mean, SD = Standard deviation

\* 3,000 TL was approximately 120 USD at the time of the research. This amount was decided by evaluating the average student expenses in the province where the research was conducted and by conversing with students

**Table 2.** Inter-correlations among variables of the study

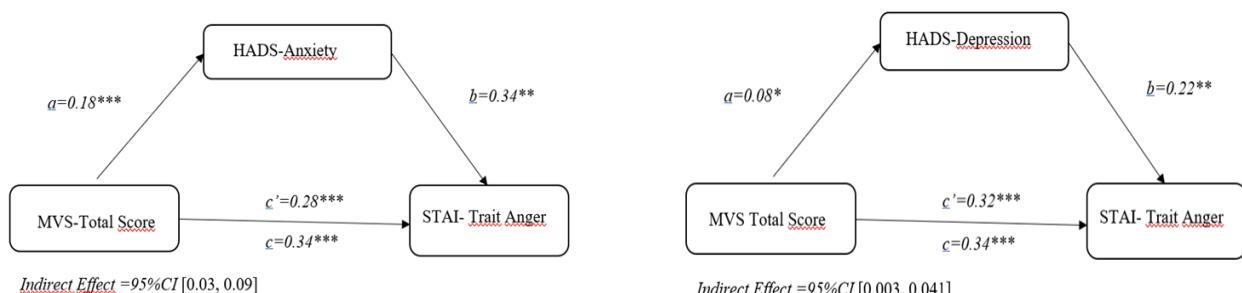
	1	2	3	4	5	6	7	8	9
1-MVS-Total Score	r p	1							
2-MVS- Happiness	r p	0.807** <0.001	1						
3-MVS- Centrality-Success	r p	0.908** <0.001	0.486** <0.001	1					
4-STAI- Trait Anger	r p	0.372** <0.001	0.245** <0.001	0.377** <0.001	1				
5-STAI- Anger-in	r p	0.232** <0.001	0.247** <0.001	0.169** <0.001	0.389** <0.001	1			
6-STAI- Anger-out	r p	0.315** <0.001	0.215** <0.001	0.313** <0.001	0.672** <0.001	0.287** <0.001	1		
7-STAI- Anger Control	r p	-0.183** <0.001	-0.088* 0.048	-0.209** <0.001	-0.430** <0.001	-0.012 0.786	-0.463** <0.001	1	
8-HADS-Anxiety	r p	0.261** <0.001	0.245** <0.001	0.212** <0.001	0.341** <0.001	0.334** <0.001	0.247** <0.001	-0.216** <0.001	1
9-HADS-Depression	r p	0.129** 0.003	0.187** <0.001	0.059 0.182	0.208** <0.001	0.336** <0.001	0.168** <0.001	-0.188** <0.001	0.510** <0.001
									1

MVS: Material Values Scale, STAI: Trait Anger and Anger Expression Style Scale, HADS: The Hospital Anxiety Depression Scale. \*Correlation is significant at 0.05 level (Pearson correlation test), \*\*Correlation is significant at 0.01 level (Pearson correlation test)

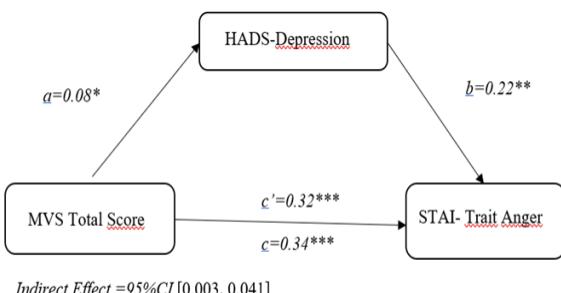
**Table 3.** Comparison of gender, diagnosis of psychiatric disorder, and monthly income with Material Values Scale scores

	n	MVS-Total Score	MVS- Happiness	MVS- Centrality-Success
		Mean ± SD	Mean ± SD	Mean ± SD
<b>Gender</b>				
Male	144	26.27±5.84	11.44±2.74	14.83±4.06
Female	365	26.24±5.79	11.13±2.78	15.12±3.87
t		0.052	1.142	-0.730
p		0.958	0.254	0.466
<b>Psychiatric disorder</b>				
No	452	26.14±5.7	11.17±2.75	14.97±3.87
Yes	57	27.12±6.49	11.58±2.96	15.54±4.29
t		-1.207	-1.054	-1.040
p		0.228	0.292	0.299
<b>Monthly income for personal expenses</b>				
3,000TL and below	298	25.37±5.68	10.80±2.74	14.57±3.83
Over 3,000TL	211	27.49±5.74	11.81±2.71	15.69±3.96
t		-4.136	-4.114	-3.186
p		<0.001	<0.001	0.002

t = Independent Samples Test, p < 0.05



(\*p<0.05, \*\*p<0.01, \*\*\*p<0.001; Non-standardized beta coefficients were used.).

**Figure 1.** The mediating role of 'HADS-Anxiety' in the relationship between total score of the Material Values Scale and 'STAI- Trait Anger'

(\*p<0.05, \*\*p<0.01, \*\*\*p<0.001; Non-standardized beta coefficients were used.).

**Figure 2.** The mediating role of 'HADS-Depression' in the relationship between the total score of the Material Values Scale and 'STAI- Trait Anger'

the MVS total score and the 'STAI- Trait Anger' score with the mediation model of the 'HADS-Depression' and the 'HADS-Anxiety' scores ([www.afhayes.com](http://www.afhayes.com)). It is argued that the bootstrap method is more reliable than Baron and Kenny's traditional method and the Sobel Test.

The mediating effect of the 'HADS-Depression' and the 'HADS-Anxiety' scores on the association between the total score of the material values scale and the 'STAI- Trait Anger' score was determined according to the confidence intervals obtained with the Bootstrap technique. In the current analyses, the bootstrap method and 5,000 resamplings were chosen. In the mediation analyses that were conducted using the bootstrap method, to support the research hypothesis, it was seen as necessary that there should be no zero (0) included between the values in a 95% confidence interval (CI).

The MVS total scores significantly predicted 'HADS-Anxiety' (a path;  $b = 0.18$ ,  $t = 6.08$ ,  $p < 0.001$ , CI [0.12, 0.24]), and 'HADS-Anxiety' significantly predicted 'STAI-Trait Anger' (b path;  $b = 0.34$ ,  $t = 6.37$ ,  $p < 0.001$ , CI [0.24, 0.45]). The total effect of MVS scores on 'STAI-Trait Anger' was significant (c path;  $b = 0.34$ ,  $t = 9.03$ ,  $p < 0.001$ , CI [0.27, 0.42]), with 'HADS-Anxiety' mediating this relationship (c' path;  $b = 0.28$ ,  $t = 7.38$ ,  $p < 0.001$ , CI [0.20, 0.35]). The model explained 20% of the variance, and the indirect effect was significant (CI [0.03, 0.09]) (Figure 1).

Similarly, MVS total scores significantly predicted 'HADS-Depression' (a path;  $b = 0.08$ ,  $t = 2.93$ ,  $p = 0.034$ , CI [0.02, 0.14]), and 'HADS-Depression' significantly predicted 'STAI-Trait Anger' (b path;  $b = 0.22$ ,  $t = 3.96$ ,  $p = 0.001$ , CI [0.11, 0.34]). The total effect of MVS scores on 'STAI-Trait Anger' was significant (c path;  $b = 0.34$ ,  $t = 9.03$ ,  $p < 0.001$ , CI [0.27, 0.42]), with 'HADS-Depression' mediating this relationship (c' path;  $b = 0.32$ ,  $t = 8.57$ ,  $p < 0.001$ , CI [0.25, 0.40]). The model explained 16.5% of the variance, and the indirect effect was significant (CI [0.003, 0.041]) (Figure 2).

## Discussion

This study examined the relationship between materialism, anger, anxiety, and depression among 509 university students. The Material Values Scale (MVS) scores, which we used to assess materialism, and 'trait anger' and other components of anger were found to be associated.

It is known that people purchase products as a means of increasing their happiness, improving their image, and achieving a certain social status, which can have negative consequences [7]. It is argued that individuals who are oriented towards materialistic values for such purposes have unrealistically high expectations [21]. Unrealistically high expectations can lead to frustration and unsatisfied psychological needs [3, 21]. The concept of frustration is often used to define anger and is associated with anger. Individuals whose expectations are not adequately met may experience frustration and anger [22].

Based on research, it can be argued that increased materialism not only reduces individual well-being but also increases the likelihood of behaving in ways that undermine other people's well-being [6, 7]. Materialism is suggested to be negatively associated with engaging in pro-social activities and positively associated with engaging in anti-social behavior [6]. In terms of close interpersonal relationships, it has also been suggested

that people who prioritize materialistic values have lower quality romantic and friendship relationships [1, 6]. Anger can also negatively affect relationships with other people. Anger and its various separable subcomponents, such as trait anger, anger expression, and anger control, are known to be associated with impaired social relations, antisocial behavior, and low-quality interpersonal relationships [12, 14, 22]. People who prioritize materialistic values make the acquisition of money and material goods their main goal in order to achieve happiness, success, and social status consequences [5-7]. They may project their anger at not achieving these goals, or at the lack of satisfaction in achieving them, onto the people around them or other members of society. We think that the relationship between materialism and anger may be a factor in why people who prioritize materialistic values behave in ways that harm the well-being of the people around them. More research is needed on this relationship.

In the study, depression and anxiety are found to be associated with the MVS total score. Previous studies have shown that materialistic people can experience a lack of happiness [15]. It has also been reported in the literature that prioritizing materialistic values is associated with depression and anxiety [3, 23, 24]. This result seems to be consistent with the results of previous studies in the literature.

This study examines the mediating effect of anxiety and depression on the association between materialism and anger. A statistically significant association was found between the Material Values Scale (MVS) total score and 'trait anger'. When anxiety and depression are included in the association, both have been shown to play a mediating role. This indicates that the effect of materialism on trait anger is partially mediated by depression and anxiety, which means that interventions or strategies for anxiety and depression may help to reduce trait anger in students both directly and indirectly.

In our study, there was no difference in the Material Values Scale (MVS) scores in terms of gender and having a diagnosis of psychiatric disorder. Age was not considered in the analysis as the participants were close in age. Previous studies also indicate that there are no consistent differences in materialism by gender [3, 25]. Having a diagnosis of a psychiatric disorder and having psychiatric symptoms are two different things. A diagnosed individual may show fewer psychiatric symptoms (depression, anxiety, and such conditions) while still under treatment. The reverse is also possible. An individual with psychiatric symptoms may not yet be diagnosed, or the individual's symptoms may be below the threshold for clinical diagnosis. For these reasons, there may not have been a relationship between self-reported psychiatric diagnoses and MVS.

When the participants were divided according to their monthly income for personal expenditure, it was observed that students with higher incomes had higher MVS scores. In the literature, there are studies indicating that lower socioeconomic status is associated with higher materialism and that there is no significant relationship between socioeconomic variables and materialism [3, 7]. We believe that this difference in the literature is related to sociocultural variables.

## Limitation

This study has several limitations and provides important directions for future research. Variables such as personality traits, social support, and self-esteem, which could mediate the relationship between materialism and anger beyond anxiety and depression, were not considered in this study. Furthermore, anger could be a symptom resulting from the depression process or a facilitating factor for the development of depression. The cross-sectional design limits causal inferences, highlighting the need for longitudinal and experimental studies. Finally, the sample consists solely of university students within a similar age range, and further research with populations of different demographic characteristics is necessary to enhance the generalizability of the findings.

### Conclusion

Despite limitations, this study is the first to explore the materialism-anger relationship, showing that depression and anxiety mediate this link. Consistent with prior research [6], materialism negatively affects personal and social well-being [6]. Addressing these effects is crucial [7]. Interventions to enhance well-being must consider emotions and social responses. Understanding the materialism-anger relationship can guide future research and intervention models to improve individual well-being and happiness.

### Scientific Responsibility Statement

The authors declare that they are responsible for the article's scientific content including study design, data collection, analysis and interpretation, writing, some of the main line, or all of the preparation and scientific review of the contents and approval of the final version of the article.

### Animal and Human Rights Statement

All procedures performed in this study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

**Funding:** None

### Conflict of Interest

The authors declare that there is no conflict of interest.

### References

- Kasser T. Materialistic values and goals. *Annu Rev Psychol.* 2016;67:489-514.
- Belk RW. Worldly possessions: Issues and criticisms. *ACR North Am Adv.* 1983;10:514-9.
- Dittmar H, Bond R, Hurst M, Kasser T. The relationship between materialism and personal well-being: A meta-analysis. *J Pers Soc Psychol.* 2014;107(5):879-924.
- Belk RW. Materialism: Trait aspects of living in the material world. *J Consum Res.* 1985;12(3):265-80.
- Richins ML, Dawson S. A consumer values orientation for materialism and its measurement: Scale development and validation. *J Consum Res.* 1992;19(3):303-16.
- Kasser T. Materialism and living well. In: *Handbook of well-being.* Salt Lake City, UT: DEF Publishers; 2018.p.860-71.
- Dittmar H, Isham A. Materialistic value orientation and well-being. *Curr Opin Psychol.* 2022;46(101337):1-6.
- Reyes V, Unanue W, Gómez M, Bravo D, Unanue J, Araya-Veliz C et al. Dispositional gratitude as an underlying psychological process between materialism and the satisfaction and frustration of basic psychological needs: A longitudinal mediational analysis. *J Happiness Stud.* 2022;23(2):561-86.
- Ohno H, Lee KT, Maeno T. The Japanese version of the Material Values Scale: Construct assessment and relationship with age, personality, and subjective well-being. *BMC Psychol.* 2022;10(1):200-1.
- Wang R, Liu H, Jiang J, Song Y. Will materialism lead to happiness? A longitudinal analysis of the mediating role of psychological needs satisfaction. *Personality and Individual Differences.* 2017;105:312-317.
- Jalees T, Khan S, Zaman SI, Miao M. The effect of religiosity, materialism, and self-esteem on compulsive and impulsive buying behavior. *J Islam Mark.* 2024;15(11):2697-731.
- Phillips LH, Henry JD, Hosie JA, Milne AB. Age, anger regulation and well-being. *Aging Ment Health.* 2006;10(3):250-6.
- Spielberger C. State-trait anger expression inventory STAXI professional manual. FL: Psychological Assessment Resources Inc. 1988.p.1781.

- de Bles NJ, Rius Ottenheim N, van Hemert AM, Pütz AM, van der Does, Penninx BW et al. Trait anger and anger attacks in relation to depressive and anxiety disorders. *J Affect Disord.* 2019;2:259-65.
- Gazanfer A. Maddi değerler ölçeği'nin Türkçe'ye uyarlanması [Adaptation of the Material Values Scale into Turkish]. *Afyon Kocatepe Univ Soc Sci.* 2020;22(3):624-34.
- Richins ML. The material values scale: Measurement properties and development of a short form. *J Consum Res.* 2004;31(1):209-19.
- Spielberger C, Jacobs G, Russell S, Crane R. Assessment of anger: The state-trait anger scale. *Adv Pers Assess.* 1983;2:161-9.
- Özer AK. Sürekli öfke (SL-Öfke) ve öfke ifade tarzı (Öfke-tarz) ölçekleri ön çalışma [Preliminary study of trait anger (SL-Anger) and anger expression style (Anger-Style) scales]. *Turk Psikol Derg.* 1994;9(31):26-35.
- Zigmond AS, Snith RP. The hospital anxiety and depression scale. *Acta Psychiatr Scand.* 1983;67(6):361-70.
- Aydemir Ö. Hastane anksiyete ve depresyon ölçüleri Türkçe formunun geçerlilik ve güvenilirliği [Validity and reliability of hospital anxiety and depression scale Turkish form]. *Turk Psikiyatri Derg.* 1997;8:187-280.
- Tsang J-A, Carpenter TP, Roberts JA, Frisch MB, Carlisle RD. Why are materialists less happy? The role of gratitude and need satisfaction in the relationship between materialism and life satisfaction. *Pers Individ Differ.* 2014;64:62-6.
- Blair RJR. Traits of empathy and anger: Implications for psychopathy and other disorders associated with aggression. *Philos Trans R Soc Lond B Biol Sci.* 2018;373:1744-5.
- Azibo DA. Unmasking materialistic depression as a mental health problem: its effect on depression and materialism in an African-United States undergraduate sample. *J Affect Disord.* 2013;150(2):623-8.
- Muñiz-Velázquez JA, Gomez-Baya D, Lopez-Casquete M. Implicit and explicit assessment of materialism: Associations with happiness and depression. *Pers Individ Differ.* 2017;116:123-32.

### How to cite this article:

Onur Gökçen, Kader Semra Karataş, Merve Akkuş, Feyza Dönmez, Çiğdem Aydoğan, Elif Aydoğan. The relationship between materialism and anger: The mediating role of depression and anxiety. *Ann Clin Anal Med* 2025;16(7):494-499

This study was approved by the Ethics Committee of Kutahya Health Sciences University (Date: 2023-07-10, No: 2023/08-23)